National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 6171 (DSI-6171)
Global Data Processing System
GDPS

May 24, 2005

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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1.   Abstract: The National Climatic Data Center maintains past data from the Global Data-processing and Forecasting Systems (GDPFS). The purpose of GDPS is to make available all processed information required for both real-time and non-real-time applications. GDPS provides products and processed information, based on recent advances in atmospheric science, using powerful numerical computer methods. Members have real-time, unrestricted access through the GTS to GDPS products which allow all countries to benefit from their participation in the World Weather Watch (WWW).

The major parameters are surface synoptic forecast in hourly increments. These forecasts are basic and derived atmospheric parameters. They are tailored for marine, aviation, environmental quality monitoring, as well as many other purposes.

The GDPS is organized as a three-level system. It consists of World Meteorological Centers (WMC), Regional/Specialized Meteorological Centers (RSMC), and National Meteorological Centers (NMC). NMCs carry out GDPS functions at the national level. In general, real-time functions of the system involve preprocessing of data including real-time quality control, analysis, and prognosis, including derivation of appropriate meteorological parameters. The non-real-time functions include data collection and archival, and additional quality control, storage, and retrieval, to include cataloging observational data and processed information for operational and special applications and for research.

WMCs are located in Melbourne, Moscow, and Washington; they provide products used for general short, medium, and long-range weather forecasts on a global scale. Melbourne specializes in forecast products for the Southern Hemisphere. The RSMCs with geographical specialization are located at Algiers, Algeria; Antananarivo, Malagasy; Beijing, China; Bracknell, United Kingdom; Brasilia, Brazil; Buenos Aires, Argentina; Cairo, Egypt; Dakar, Senegal; Darwin, Australia; Jeddah, Saudi Arabia; Khabarovsk, Russia; Lagos, Nigeria; Melbourne, Australia; Miami, Florida; Montreal, Canada; Moscow, Russia; Nairobi, Kenya; New Delhi, India; Novosibirsk, Russia; Offenbach, Germany; Rome, Italy; Tashkent, Uzbekistan; Tokyo, Japan; Tunis, Tunisia; Washington, D.C.; and Wellington, New Zealand.

RSMCs with activity specialization are found at The European Center for Medium Range Forecasts; Réunion Island (France); Toulouse, France; and Washington D.C.

The regional centers at Bracknell, Miami, Montreal, New Delhi, and Tokyo have dual geographical and activity specialization responsibilities. These centers provide regional products used for short and medium-range forecasting of small, mesoscale, and large scale meteorological systems by WMCs. Products of RSMCs can be used by members at the national level for further processing or interpretation to provide assistance or service to users.

In the World Area Forecast System (WAFS), two centers (Washington and London) are designated by the ICAO as World Area Forecast Centers (WAFC). They issue upper-wind and temperature forecasts with global coverage to associated Regional Area Forecast Centers (RAFC). The regional centers also prepare and distribute forecasts of weather elements defined by ICAO as significant weather.

In the planned implementation of the final phase, the two WAFCs would prepare and issue computer- based wind and temperature forecasts as they now do. In
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addition, those centers will automate all of the significant weather elements. While some of these elements are now prepared automatically, others will be realized in the near future through forecaster-initiated graphic interaction. The dissemination of aeronautical information via global satellite broadcast began in 1995. The U.S. provides the links to two of the three satellites specified in the system.

2.   Element Names and Definitions:

The format for Global Data-processing and Forecasting System is in GRIB. http://dss.ucar.edu/docs/formats/grib/gribdoc/

3.   Start Date: 20000101

4.   Stop Date: Present

5.   Coverage:

    a.   Southernmost Latitude: 90.0S
    b.   Northernmost Latitude: 90.0N
    c.   Westernmost Longitude: 180.0W
    d.   Easternmost Longitude: 180.0E

6.   How to Order Data:

    Ask NCDC's Climate Services about the cost of obtaining this data set.
    Phone: 828-271-4800
    FAX: 828-271-4876
    E-mail: **NCDC.Orders@noaa.gov**

7.   Archiving Data Center:

    Archive Branch
    National Climatic Data Center
    151 Patton Avenue
    Asheville, NC 28801

8.   Technical Contact:

    National Climatic Data Center
    151 Patton Avenue
    Asheville, NC 28801

9.   Known Uncorrected Problems: None.

10. Quality Statement:

11. Essential Companion Datasets:

12. References:

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